

Social Science in the Making: An Economist's View

Frans van Winden

CREED, Department of Economics, University of Amsterdam

HISTORICAL NOTES

Classical political economy was part of a budding social science. Pioneers like Adam Smith showed a clear interest in the psychological (as well as sociological and political) aspects of economic behavior. Paradoxically, it seems to have been the “marginal revolution” toward the end of the 19th century, when attention got focused on marginal trade-offs in individual decision making, that turned the tide. Stimulated by the emerging hypothesis of a rational and selfish economic agent with stable preferences (*homo economicus*)—which proved to be handy for mathematical modeling and was thereby reinforced—political economy developed into the economics we know today. At about the same time, psychology established itself as a separate and experimental science through the work of, among others, Wilhelm Wundt. An important methodological distinction was generated, with economics developing itself into a deductive science, taking the *homo economicus* model as its starting point, and psychology as an inductive science, working from experimental data. Some serious attempts were made, in particular by George Katona, to bring the two closer together again. However, the main impact has been restricted to consumer behavior in marketing (economic psychology). This is, of course, a very rough historical sketch. Over time, several prominent economists occasionally referred to the importance of psychological factors, like, for instance, the “animal spirits” that are driving investment in the view of John Maynard Keynes. Nevertheless, the idea of a “calculus of pleasure and pain”

(Jeremy Bentham) had definitively lost impetus, and Adam Smith's (other) classic work on moral sentiments had fallen into obscurity.

MARCHING SEPARATELY

The academic division of labor between psychology and economics, allowing these disciplines to exploit and explore their methodologies to the full, has been very productive in the past. However, it is also felt that, although economists may have been too eager to construct "logical superhighways" without much empirical support, psychologists were perhaps too reluctant to venture formalized generalizations using their wealth of experimental data. Recent developments suggest that the combination of experimentation and mathematical formalization is a powerful match for further scientific progress and is promising in terms of bringing psychology and economics closer together. Because the focus in this essay is on social psychology, I discuss these issues using some of my own experiences concerning research on social interaction in groups. My aim is to illustrate the instrumentality of experimentation for making bridges, and to indicate the importance of theoretical modeling as well as the relevance of institutions.

LESSONS FROM SOCIAL DILEMMAS AND PUBLIC GOODS

A major topic in the social sciences concerns the behavior of individuals in social dilemmas. In economics, important theoretical work has been done regarding the related issue of public goods. This work has generated many insights into the responses of *homo economicus* to changes in behavioral constraints (income, prices). However, the observation that in reality the predicted free-riding seemed less severe stimulated an interest in applying laboratory experimentation, which was emerging as a research method in economics (in the early 1960s successfully applied to markets by Nobel laureate Vernon Smith). About two decades of experimental work has clearly shown the restraining nature of the assumptions of the *homo economicus* model (see Ledyard, 1995; van Winden, 2002). Because public good environments are perhaps the simplest to study behavior in groups, and groups are a core issue in the social sciences, I see the following experiences as important from a bridging perspective.

First, by getting involved in a shared methodology (experimentation), it became more difficult to neglect the findings of social psychologists.

Second, the experimental designs were in the domain of the theoretical models, making it difficult for theorists to contest the results and stay within an ivory tower (which was easier with field empirical observations plagued by all sorts of noise effects). For the development of experimental economics, this support from (particularly game) theorists has been extremely important.

Third, the emphasis in economics on modeling proved very helpful—first by structuring experimental work through the application of theoretical tools

and insights, which provided direction and discipline. Furthermore, it has stimulated the development of new models, incorporating robust experimental findings, which can also be tested on other environments (e.g., Fehr & Schmidt, 1999). Note that it is only through modeling that we can ever hope to generalize in a practical way to other parameter values and cases, other than the specific ones studied in experiments.

Fourth, as argued by Lewin (1967, p. 193) experimentation with groups leads to a natural integration of social sciences because it forces the experimenter to consider all relevant factors even if he or she cannot analyze them satisfactorily yet. Factors like group identification, social approval, reciprocity, and norms have found a place in the vocabulary of the experimental economist.

Finally, in my experience, bridging is particularly stimulated by (a) educational training in the substantive issues or methods of different social sciences (like experimentation or mathematical modeling, which both work as a *lingua franca*), (b) meetings on a shared methodology (like the Economic Science Association conferences in experimental economics that are not only attended by economists), and (c) some commitment to joint research projects with other social scientists (via dedicated research centers or conditioned research funding).

ILLUSTRATION

To exemplify, I will point at Bridging activity in my own research group at CREED—the Center for Research in Experimental Economics and Political Decision Making. CREED started in 1991, funded by a large “pioneer grant” from the Netherlands Organization for Scientific Research (NWO), to create an innovative research group and to develop experimental economics in the Netherlands. One of the conditions was to incorporate social psychological expertise in the project. This condition stimulated several experimental studies using the “Ring Test” (Liebrand, 1984) for measuring “social value orientation,” showing the importance thereof for contributions to public goods (e.g., Offerman, Sonnemans, & Schram, 1996). Subsequently, this same test was used in a novel way to measure “social ties.” By applying the test twice, before and after social interaction, one can derive the attitude toward the specific other interacted with in comparison with a generalized other (e.g., van Dijk, Sonnemans, & van Winden, 2002). These experiments were instigated by, and supported, a theoretical model that capitalized on other social psychological work by, among others, George Homans, whose analytical style is inviting for a formally trained economist (van Dijk & van Winden, 1997). A next step has been to apply this technique to larger formal groups, showing that informal groups characterized by positive as well as negative ties may form through interaction (Sonnemans, van Dijk, & van Winden, 2001). Another natural outgrowth involved the application to social capital issues, which happened in the context of an interdisciplinary research program with sociologists funded by NWO (e.g., Riedl & van Winden, 2003). Subse-

quently, this research has been extended toward the experimental investigation of endogenous networks and related theoretical models. The conception of social ties as being determined by feelings and emotions, and the experimental support obtained, stimulated in its turn a new major project on the economic significance and modeling of emotions, which extended and deepened contacts with psychologists (e.g., Bosman, Sonnemans, & Zeelenberg, 2001; Bosman & van Winden, 2002; van Winden, 2001). It also clearly showed the hindrance of existing disciplinary borders for PhD students to get adequate cross-disciplinary training. Finally, another important incentive for bridging turned out to be the participation in European Community (EC)-funded research networks. At CREED this has stimulated, among others, recent experimental research on social interaction within and between groups in collaboration with social psychologists (e.g., Bornstein, Schram, & Sonnemans, 2001). All these developments at CREED seem to nicely illustrate the influence of the aforementioned factors.

SUCCEEDING TOGETHER

Recent developments suggest that productivity in the social sciences will benefit from crossing existing academic barriers, and that such crossing is more and more likely. One development is the growing attention in economics for cognitive limitations and peculiarities (bounded rationality; see Rabin, 1998). Another one concerns the gradually increasing appreciation in economics—as in psychology, for that matter—of the significance of emotions as determinants of decision making and their instrumentality for taking good decisions (e.g., Elster, 1998). It may be more appropriate to speak here of “bounded reasoning” than of bounded rationality. In a sense, we are going back to Bentham (Kahneman, Wakker, & Sarin, 1997). Furthermore, in both disciplines there is a growing awareness of the importance of evolutionary forces (for economics, see Robson, 2001). A related development is that researchers from both sides will increasingly have to deal with the challenging findings obtained from modern brain research, with neuroeconomics emerging as a new field (Camerer, Loewenstein, & Prelec, 2005). These developments should be seen in combination with the sharing of experimentation as a research method and an increasing uneasiness in economics about sheer formalization and in social psychology about the lack of more general theories.

However, the present institutional environment (at least in Europe), with faculties in universities functioning as bureaucratic agencies and little competition between universities, is severely frustrating cross-disciplinary activity (Lohmann, 2003).

CONCLUSIONS

Social science is in the making, but its success seems particularly conditioned on the willingness to put experimentation, including computer simulation,

and formalization on an equal footing (cf. Lewin, 1967, p. 236). By now, experimental economics is an accepted research method in economics, with papers across the whole domain of economics being regularly published in the top journals, labs at major economics departments, and its own specialized journal. Regarding their analytical methodology, however, economists will have to grow satisfied with the construction of theoretical highways, for particular classes of problems, instead of malfunctioning superhighways. My perception is that a growing number of behavioral economists are heading in this direction. Although they are still a minority, their position will further gain momentum. Whether the theoretical innovations of behavioral economics will be cumulative in the longer run is unclear, but I do not see why we should be pessimistic (cf. Gintis, 2003; Kahneman, 2003). In their turn, social psychologists will have to venture more fast-track formal theory building. In this respect, they could benefit from the experience and insights of economists. From reading their journals, I have also the impression that social psychologists could benefit from paying more attention to the findings of experimental economists. Finally, both sides should be more open to the pros and cons of its experimental methodology. Use of monetary incentives should not be an automatism for economists, whereas psychologists should consider no deceit as default (Hertwig & Ortmann, 2001).

The fact that Daniel Kahneman and Vernon Smith were awarded the Nobel Prize is a hopeful sign for bridging, especially, if it also induces some institutional changes, like cross-disciplinary research centers and core curricula.

ACKNOWLEDGMENTS

Comments by Joep Sonnemans and an anonymous referee are gratefully acknowledged.

REFERENCES

- Bornstein, G., Schram, A., & Sonnemans, J. (2004). Do democracies breed chickens? In R. Suleiman, D. V. Budescu, I. Fischer, & D. M. Messick (Eds.), *Contemporary psychological research on social dilemmas* (pp. 248–268). Cambridge: Cambridge University Press.
- Bosman, R., & van Winden, F. (2002). Emotional hazard in a power-to-take experiment. *Economic Journal*, *112*, 147–169.
- Bosman, R., Sonnemans, J., & Zeelenberg, M. (2001). *Emotions, rejections, and cooling off in the ultimatum game*. Unpublished manuscript, University of Amsterdam.
- Camerer, C., Loewenstein, G., & Prelec, G. (2005). Neuroeconomics. *Journal of Economic Literature*, *43*, 9–64.
- van Dijk, F., Sonnemans, J., & van Winden, F. (2002). Social ties in a public good experiment. *Journal of Public Economics*, *85*, 275–299.
- van Dijk, F., & van Winden, F. (1997). Dynamics of social ties and public good provision. *Journal of Public Economics*, *64*, 323–341.
- Elster, J. (1998). Emotions and economic theory. *Journal of Economic Literature*, *36*, 47–74.

- Fehr, E., & Schmidt, K. M. (1999). A theory of fairness, competition and cooperation. *Quarterly Journal of Economics*, 114, 817–868.
- Gintis, H. (2003). *Towards a unity of the human behavioral sciences*. Unpublished manuscript, Santa Fe Institute.
- Hertwig, R., & Ortmann, A. (2001). Experimental practices in economics: A challenge for psychologists? *Behavioral and Brain Sciences*, 24, 383–403.
- Kahneman, D. (2003). A psychological perspective on economics. *American Economic Review (Papers and Proceedings)*, 93, 162–168.
- Kahneman, D., Wakker, P. P., & Sarin, R. (1997). Back to Bentham? Explorations of experienced utility. *Quarterly Journal of Economics*, 112, 375–405.
- Ledyard, J. (1995). Public goods: A survey of experimental results. In J. H. Kagel & A. E. Roth (Eds.), *The handbook of experimental economics* (pp. 111–194). Princeton: Princeton University Press.
- Lewin, K. (1967). *Field theory in social science* (D. Cartwright, Ed.). London: Tavistock.
- Liebrand, W. B. G. (1984). The effects of social motives, communication and group sizes on behavior in a n-person multi stage mixed motive game. *European Journal of Social Psychology*, 14, 239–264.
- Lohmann, S. (2003). Academia. In C. K. Rowley & F. Schneider (Eds.), *Encyclopedia of public choice* (Vol. 2, pp. 3–5). Boston: Kluwer.
- Offerman, T., Sonnemans, J., & Schram, A. (1996). Value orientations, expectations and voluntary contributions in public goods. *Economic Journal*, 106, 817–845.
- Rabin, M. (1998). Psychology and economics. *Journal of Economic Literature*, 36, 11–46.
- Riedl, A., & van Winden, F. (2003). Information and the creation and return of social capital: An experimental study. In H. Flap & B. Völker (Eds.), *Creation of social capital* (pp. 77–103). London: Routledge.
- Robson, A. J. (2001). The biological basis of economic behavior. *Journal of Economic Literature*, 39, 11–33.
- Sonnemans, J., van Dijk, F., & van Winden, F. (2001). *On the dynamics of social ties structures in groups*. Unpublished manuscript, University of Amsterdam.
- van Winden, F. (2001). Emotional hazard exemplified by taxation-induced anger. *Kyklos*, 54, 491–506.
- van Winden, F. (2002). Experimental investigation of collective action. In S. L. Winer & H. Shibata (Eds.), *Political economy and public finance* (pp. 178–196). Cheltenham: Edward Elgar.